



# ROLE OF ICT IN QUALITY ENHANCEMENT IN HIGHER EDUCATIONAL INSTITUTIONS- OPPORTUNITIES & CHALLENGES

Dharmendra Nagda<sup>1</sup> | Dr. Dharmesh Motwani<sup>2</sup>

<sup>1</sup> MBA Graduate & Independent Researcher.

<sup>2</sup> Associate Professor Department of Management Studies, Geetanjali Institute of Technical Studies, Udaipur.

## ABSTRACT

Education is considered one of the crucial sectors of the country's growth. Education plays a major role to offer a competitive advantage in the times of global competition among the countries. In recent years, the advancement in ICT (Information & Communication Technologies) has proved its worth in improving the quality in higher education institutions. The use of various ICT tools and equipment not only improved the flexibility of delivery of education but has also helped in other areas of educational institutions like enhancing community engagement, teaching experience, administration and in research etc. This paper explores the various opportunities and challenges when using ICT as Quality Enhancement tools in higher education institutions. The findings reveal that how ICT can be used in the growth of interactive learning in the students of higher education and what major challenges the institutions are facing while implementing ICT to improve quality.

**KEYWORDS:** ICT, Higher Education, Quality Enhancement.

## INTRODUCTION:

Education is the major contributor in building the society. It is the most important need for economic well-being and progress of both individuals and society. Higher education in the country like India is one of the booming sectors. Higher education includes career and skill-oriented courses like Engineering, Medical, Commerce, Management, Arts etc. As of 2017, there are total 47 Central Universities, 392 State Universities, 124 Deemed Universities and 282 Private Universities in India. The quality of the education plays a crucial role in shaping the nation in all other sectors and thus ICT is used to enhance the quality of education. ICT stands for Information Communication Technologies and helps in manipulation and communication of information. ICT can be divided into two parts viz. Traditional ICTs and Modern ICTs. Traditional ICTs include radio, television and Modern ICTs include internet, telecommunications, computer software, videoconferencing, e-mail etc. Latest ICT advancement in Education include e-learning platforms based on Computer Supported Collaborative Learning (CSCL).

**Higher Education Scenario in India**

S. No.	Type of Universities	No.
1.	Central Universities	47
2.	State Universities	392
3.	Deemed Universities	124
4.	Institutions of National Importance	91
5.	Private Universities	317
<b>Total</b>		<b>917</b>

## OBJECTIVES OF ICT IN HIGHER EDUCATION:

1. Enhancing the learning speed, problem solving and analytical skills of the students.
2. Improving the level of knowledge and skills gained in the areas of specialization.
3. Increasing the use of technology in enhancing quality of education.
4. Improving the information exchange among the students and higher educational institutions.
5. Enhancing the engagement of higher educational institutions and their potential customers.

## LITERATURE REVIEW:

Uttam Kr Pegu (2014) studied on "Information and communication technology in higher education in India: challenges and opportunities" and found that with the help of ICT, education can be democratized i.e. can be made accessible to everyone and thus can transform higher education in India.

Swati Desai (2010) researched on "Role of Information Communication Technologies in Education" and found that ICT in education will enhance the learning

experience and communication in the students. It was also found that ICT will modify the role of teachers and apart from classroom education, they will act as virtual guides for students using electronic media and other ICT tools.

Bhattacharya (2007) and Cholin (2005) in their research studies found that ICT can be used to develop the digital resources like Digital Library, E-learning resources etc. where scholars, professionals and students can access the material. Thus, such digital resources help in removing the time and place constraints in accessing knowledge.

Sharma (2003) and Bottino (2003), in their researches found that the implementation of ICT in education can boost the teaching quality, administration and performance.

## ICT IN HIGHER EDUCATION- OPPORTUNITIES:

In India, the use of ICT in education is done using the combination of ICTs such as satellite technology, local language interface, open source software, digital libraries etc. which aims to reach each and every corner of the country in order to enhance the quality of education.

## Major ICT Initiatives in India:

### 1. UGC-INFONET:

UGC-INFONET was established in the end of 2004 by UGC (University Grant Commission). UGC-INFONET offers an electronic access to all the scholarly literature and material available on the internet. The programme was executed by the Director, Information and Library Network (INFLIBNET) Centre, Ahmedabad and the UGC affiliated universities are the member of this programme.

### 2. BRIHASPATI:

It is an e-learning platform. It was developed as an open source freeware by IIT Kanpur. Faculties can post their handouts, lecture notes and study material in electronic format on the INTRANET.

### 3. EDUSAT:

EDUSAT was launched by the ISRO (Indian Space Research Organization) in collaboration with Ministry of Human Resource Development (MHRD). This project aims on multicasting interactive multimedia for the educational sector and augment distance education capabilities in the country.

### 4. SAKSHAT:

SAKSHAT is an educational portal under MHRD which provides links to resources available on the web. It addresses all the educational related needs of teachers, students, researchers and learners. The content was developed by UGC, AICTE, IGNOU, NCERT, KVS, NVS, CBSE, IISc, IITs.

### 5. e-SIKSHAK:

e-Sikshak is an e-learning framework launched by Centre for Development of Advanced Computing (CDAC) a Scientific Society of the Ministry of Communications and Information Technology, Government of India. This portal can be used to learn free courses in Telegu.

**6. VARTALAAP:**

It is computer-based solution over a computer network that creates a virtual classroom. This virtual classroom is modeled closely to real-world classroom. This system is useful in improving the learning experience for distance learning course students.

**7. e-YANTRA:**

e-Yantra is an initiative by IIT Bombay and is sponsored by MHRD under the National Mission on Education through ICT program that aims to create the next generation of embedded systems engineers with a practical outlook to help provide practical solutions to some of the real-world problems.

**8. OSCAR++:**

OSCAR (Open Source Courseware Animations Repository) aims to build a large repository of web-based, interactive animations and simulations, referred as learning objects (LOs), for teaching and learning concepts in science and technology. Such systems are useful for both classroom learning, independent learning and distance education.

**9. FOSSEE:**

FOSSEE stands for Free and Open Source Software in Education and is part of National Mission on Education through Information and Communication Technology (ICT), Ministry of Human Resource Development (MHRD), Government of India. The project aims at promoting the use of FOSS tools to improve the quality of education in India.

**10. e- KALPA or D'Source:**

This project is sponsored by the Ministry of Human Resources, Government of India as part of the National Mission in Education through Information and Communication Technology. This project is launched with an aim 'Creating Digital-learning Environment for Design' and thus creating learning environments that will provide access to acquisition of critical knowledge, skills, and abilities in the field of design.

**11. VIRTUAL LEARNING ENVIRONMENT (VLE):**

VLE is an online platform for e-resources which fulfills the needs of several courses taught at Undergraduate and Postgraduate level. It is an initiative of Institute of Life-Long Learning, University of Delhi conceived in 2012.

Other ICT initiatives includes:

1. National Programme on Technology Enhanced Learning
2. Virtual Labs
3. Talk to Teacher
4. Spoken Tutorial
5. Quantum & Nano Computing
6. ISLERS
7. Aakash Educational Portal

**CHALLENGES IN IMPLEMENTING ICT IN HIGHER EDUCATION INSTITUTIONS:**

The use of ICT in higher education has improved various sectors like performance, availability, accessibility etc. While using ICT in higher education as quality improvement tool, a lot of challenges occur. It includes:

1. Less quality content availability.
2. Improper research on needs of students.
3. Less intervention of faculties and teachers.
4. Unavailability of infrastructure.
5. Lack of technical skills among the teachers and faculties.
6. The cost of development, implementation and maintenance of such systems can be high.
7. Duplicate content can create problems on knowledge gaining among students
8. Students can copy the content instead of learning and improving their knowledge.
9. Lack of training programmes for faculties and teachers.
10. Lack of technical support as and when required.
11. Updating the original content regularly is still a challenge in India.

**CONCLUSION:**

As we move towards implementing ICT in higher education to keep pace with technological changes in the world, it is important to identify the need that we are fulfilling. It is found that using ICT can change and thus can improve the entire teaching-learning process. The use of ICT can remove the time and place constraints as it improves the accessibility and usability for the user. The system can be used across the corners of the country and thus the quality content can be shared among the needy ones. Another major finding of the paper is the challenges that occur while using ICT in higher education. The challenges that might occur in future course of time must be evaluated in advance and proper strategies must be designed to remove such challenges or drawbacks else it can affect the effectiveness of the ICT and thus quality can be reduced.

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